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10 30 50
CGATCGCCACGACCAAGTCCGCTTCCAGGCTTTCGGTTTCTTGCCTCCATCTTGGGTG
70 90 110
CGCCTTCCCGGCGTCTAGGGGAGCGAAGGCTGAGGTGGCAGCGGCAGGAGAGTCCGGCCG
130 150 170
CGACAGGACGAACTCCCCACTGGAAAGGATTCTGAAAGAAATGAAGTCAGCCCTCAGAA
190 210 230
ATGAAGTTGACTGCCTGCTGGCTTTCTGTTGACTGGCCCGGAGCTGTACTGCAAGACCCT
250 270 290
TGTGAGCTTCCCTAGTCTAAGAGTAGGATGCTGCTGAAGTCATCCATCAGGTTGAAGAA
310 330 350
GCACTTGATACAGATGAGAAGGAGATGCTGCTCTTTTGTGCCGGGATGTTGCTATAGAT
A L D T D E K E M L L F L C R D V A I D
370 390 410
GTGGTTCACCTAATGTCAGGGACCTTCTGGATATTTTACGGGAAAGAGGTAAGCTGTCT
V V P P N V R D L L D I L R E R G K L S
430 450 470
GTCGGGGACTTGGCTGAACTGCTCTACAGAGTGAGGCGATTGACCTGCTCAAACGTATC
V G D L A E L L Y R V R R F D L L K R I
490 510 530
TTGAAGATGGACAGAAAAGCTGTGGAGACCCACCTGCTCAGGAACCTCACCTTGTTCG
L K M D R K A V E T H L L R N P H L V S
550 570 590
GACTATAGAGTGCTGATGGCAGAGATTGGTGAGGATTGGATAAATCTGATGTGTCCTCA
D Y R V L M A E I G E D L D K S D V S S
610 630 650
TTAATTTTCCTCATGAAGGATTACATGGGCGAGGCAAGATAAGCAAGGAGAAGAGTTTC
L I F L M K D Y M G R G K I S K E K S F
670 690 710
TTGGACCTTGTGGTTGAGTTGGAGAACTAAATCTGGTTGCCCCAGATCAACTGGATTTA
L D L V V E L E K L N L V A P D Q L D L
730 750 770
TTAGAAAAATGCCTAAAGAACATCCACAGAATAGACCTGAAGACAAAAATCCAGAAGTAC
L E K C L K N I H R I D L K T K I Q K Y
790 810 830
AAGCAGTCTGTTCAAGGAGCAGGGACAAGTTACAGGAATGTTCTCCAAGCAGCAATCCAA
K Q S V Q G A G T S Y R N V L Q A A I Q
850 870 890
AAGAGTCTCAAGGATCCTTCAAATAACTTCAGGCTCCATAATGGGAGAAGTAAAGAACAA
K S L K D P S N N F R L H N G R S K E Q
910 930 950
AGACTTAAGGAACAGCTTGGCGCTCAACAAGAACCAAGTGAAGAAATCCATTAGGAATCA
R L K E Q L G A Q Q E P V K K S I Q E S
970 990 1010
GAAGCTTTTTCCTCAGAGCATACCTGAAGAGAGATACAAGATGAAGAGCAAGCCCCTA
E A F L P Q S I P E E R Y K M K S K P L
1030 1050 1070

FIG.1A

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GGAATCTGCCTGATAATCGATTGCATTGGCAATGAGACAGAGCTTCTTCGAGACACCTTC
G I C L I I D C I G N E T E L L R D T F

1090 1110 1130
ACTTCCCTGGGCTATGAAGTCCAGAAATCTTGCATCTCAGTATGCATGGTATATCCCAG
T S L G Y E V Q K F L H L S M H G I S Q

1150 1170 1190
ATTCTTGGCCAATTTGCCTGTATGCCCGAGCACCAGACTACGACAGCTTTGTGTGTGTC
I L G Q F A C M P E H R D Y D S F V C V

1210 1230 1250
CTGGTGAGCCGAGGAGGCTCCAGAGTGTGTATGGTGTGGATCAGACTCACTCAGGGCTC
L V S R G G S Q S V Y G V D Q T H S G L

1270 1290 1310
CCCCCTGCATCACATCAGGAGGATGTTTCATGGGAGATTTCATGCCCTTATCTAGCAGGGAAG
P L H H I R R M F M G D S C P Y L A G K

1330 1350 1370
CCAAAGATGTTTTTATTCAGAACTATGTGGTGTTCAGAGGGCCAGCTGGAGGACAGCAGC
P K M F F I Q N Y V V S E G Q L E D S S

1390 1410 1430
CTCTTGAGGTGGATGGGCCAGCGATGAAGAATGTGGAATTCAAGGCTCAGAAGCGAGGG
L L E V D G P A M K N V E F K A Q K R G

1450 1470 1490
CTGTGCACAGTTCACCGAGAAGCTGACTTCTTCTGGAGCCTGTGTACTGCGGACATGTCC
L C T V H R E A D F W S L C T A D M S

1510 1530 1550
CTGCTGGAGCAGTCTCACAGCTACCGTCCCTGTACCTGCAGTGCCTCTCCCAGAACTG
L L E Q S H S S P S L Y L Q C L S Q K L

1570 1590 1610
AGACAAGAAAGAAAACGCCCACTCCTGGATCTTCACATTGAACTCAATGGCTACATGTAT
R Q E R K R P L L D L H I E L N G Y M Y

1630 1650 1670
GATTGGAACAGCAGAGTTTCTGCCAAGGAGAAATATTATGTCTGGCTGCAGCACACTCTG
D W N S R V S A K E K Y Y V W L Q H T L

1690 1710 1730
AGAAAGAACTTATCCTCTCCTACACATAAGAAACCAAAGGCTGGGCGTAGTGGCTCGC
R K K L I L S Y T *

1750 1770 1790
ACCTGTAATCCCAGCACTTTGGGAGGCCAAGGAGGGCGGATCACTTCAGGTCAGGAGTTC
GAGACCAGCCTGGCCAACATGGTAAACGCTGTCCCTAGTAAGAGTGCAAAAATTAGCTGG

1810 1830 1850
GTGTGGGTGTGGGTACCTGTGTTCCAGTTACTTGGGAGGCTGAGGTGGGAGGATCTTTT
GAACCCAGGAGTTCAGGGTCATAGCATGCTGTGATTGTGCCTACGAATAGCCACTGCATA

1930 1950 1970
CCAACCTGGGCAATATAGCAAGATCCCATCTTTTAAAAAAAAAAAAAAAAAAAAA

1990 2010 2030

FIG.1B

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1	MD-----F SRNLYDTIEDLSEDLASLK	huFLICE (U58143)
1	MKSQGGHWYSSSDKNCKVSFREKLLILDSNLGVQDVENLK	HuMch4(U60519)
1	MSAEVIH-----QVEEALDTDEKEMLL	HSALZ11Xprotein
1	M-----	HCEBJ50XXprotein
24	FLSLDYIPQRKQEPKDALMLFQRLQEKRMLEESNLSFLK	huFLICE (U58143)
41	FLCIGLVPNKKLEKSSASDVFEHLAEDLLSEEDPFFLA	HuMch4(U60519)
23	FLCRDVAIDVPPNVRD---LLDILRERGKLSVGD---LA	HSALZ11Xprotein
2	-----	HCEBJ50XXprotein
64	ELLFRINRLDLLITYLNTRKEEME-RELQTPGRAQISAYR	huFLICE (U58143)
81	ELLYIIRQKKLL-QHLNCTKEEVE-RLL--PTRQRVSLFR	HuMch4(U60519)
57	ELLYRVRRFDLLKRILKMDRKAVETHLLRNP--HLVSDYR	HSALZ11Xprotein
2	-----	HCEBJ50XXprotein
103	VMLYQITSEEVSRSELRSFKFLQEEISKQKLDLDDMNLLDI	huFLICE (U58143)
117	NLLYELSEGIDSENKDMIFLLKDSLPK----TMTSLSF	HuMch4(U60519)
95	VLMAEIGEDLDKSDVSSLIFLMKDYMGRGKISKEKSFLDL	HSALZ11Xprotein
2	---AEIGEDLDKSDVSSLIFLMKDYMGRGKISKEKSFLDL	HCEBJ50XXprotein
143	FITEMEKRVLGEGKLDILKRVCAQTINKSLLKI-INDM---	huFLICE (U58143)
153	LAFLEKQGGKIDEDNLTCLDLCKTVVPKLLRN-IEKYK--	HuMch4(U60519)
135	VVELEKLNLVAPDQLDLLEKCLKNIHRIDLKTKIQKYKQS	HSALZ11Xprotein
39	VVELEKLNLVAPDQLDLLEKCLKNIHRIDLKTKIQKYKQS	HCEBJ50XXprotein

FIG.2A

179	-----EEFSKERSSSLEGGSPDEFS-----NGEELC	huFLICE (U58143)
190	-----REKAIQIVTPPVDKAEASYQ-----GEEEL-	HuMch4 (U60519)
175	VQGAGTSYRNVLQAAIQKSLKDPSNNFR	HSALZ11Xprotein
79	VQGAGTSYRNVLQAAIQKSLKDPSNNFR-----	HCEBJ50XXprotein
204	GVMTISDSPREQDSFSQT-----LDKVVYQMKSKPRGYC	huFLICE (U58143)
215	----VSQTDVKTFLEALP-----RAAVYRMNRNHRGLC	HuMch4 (U60519)
215	EQLGAQQEPVKKSIQSEAFLPQSIPEERYKMKSKPLGIC	HSALZ11Xprotein
107	-----EFPVKKSIQSEAFLPQSIPEERYKMKSKPLGIC	HCEBJ50XXprotein
237	LIINNHNFAKAREKVPKLHSIRDRNGTHDAGALTITTFEE	huFLICE (U58143)
244	VIIVNNHSFT-----SLKDRQGTHKDAEILSHVFQW	HuMch4 (U60519)
255	LIIDCIG-----NETELLRDTFTS	HSALZ11Xprotein
141	LIIDCIG-----NETELLRDTFTS	HCEBJ50XXprotein
277	LHFEIKPHDDCTVEQIYEILKIYQ-LMDHSNMDCFIDCIL	huFLICE (U58143)
274	LGFTVMHIHNNVTKVEMEMVLQKQKCNPAHADGDCFVFCIL	HuMch4 (U60519)
274	LGYEVQKFLHLSMHGISQILGQFACMPEHRDYDSFVCVLV	HSALZ11Xprotein
160	LGYEVQKFLHLSMHGISQILGQFACMPEHRDYDSFVCVLV	HCEBJ50XXprotein
316	SHGDKGI IYGTIDGQEP--PIYELTSQFTGLKCPSLAGKPK	huFLICE (U58143)
314	THGRFGAVYSSDEALI--PIREIMSHFTALQCPRLAEKPK	HuMch4 (U60519)
314	SRGGSQSVYGV DQTHSGLPLHHIRRMFMGDSCPYLAGKPK	HSALZ11Xprotein
200	SRGGSQSVYGV DQTHSGLPLHHIRRMFMGDSCPYLAGKPK	HCEBJ50XXprotein

FIG.2B

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354	VFFIQAC--QG	DNYQKGIPVETD	SEEQPYLEMDLSSPQTR	huFLICE(U58143)		
352	LFFIQAC--QG	EIQPSVSI	EADALNPEQAPTSLSQDS---	HuMch4(U60519)		
354	MFFIQNYVVSE	GQLEDSSLLEV	DGPAMKNVEFKAQKRGLC	HSALZ11Xprotein		
240	MFFIQNYVVS	DGQLEDSSLLEV	DGPAMKNVEFKAQKRGLC	HCEBJ50XXprotein		
392	YIPDEADFL	GMATVNNCM	SYRNPAEGTWYIQSLQSLRE	huFLICE(U58143)		
387	-IPAEADFL	GLATVPGYMS	FRHVEEGSWYIQSLCNHKK	HuMch4(U60519)		
394	TVHREADFF	WSLCTADMS	LEQSHSSPSLYLQCLSQKLRL	HSALZ11Xprotein		
280	TVHREADFF	WSLCTADMS	LEQSHSSPSLYLQCLSQKLRL	HCEBJ50XXprotein		
432	RCPRGDD	ILTI	ILTEVNHYEVS	NKDDKKNMGKQMPQPTFTL	huFLICE(U58143)	
426	LVPRHED	ILSILT	AVNDDVS	RRVDKQGT	KKQMPQPAFTL	HuMch4(U60519)
434	--ERKRPL	LDLHIE	NGMYD	WNSRVSA	REKYYVWLQHTL	HSALZ11Xprotein
320	--ERG	-----	TIPG	-----	SGITESKDMHFSSLGCIL	HCEBJ50XXprotein
471	RKKLVFP	-----	SD		huFLICE(U58143)	
465	RKKLVFP	VPLDAL	SI		HuMch4(U60519)	
472	RKKLIL	-----	SYT		HSALZ11Xprotein	
345	-----	L	-----	DVLO	HCEBJ50XXprotein	

FIG.2C

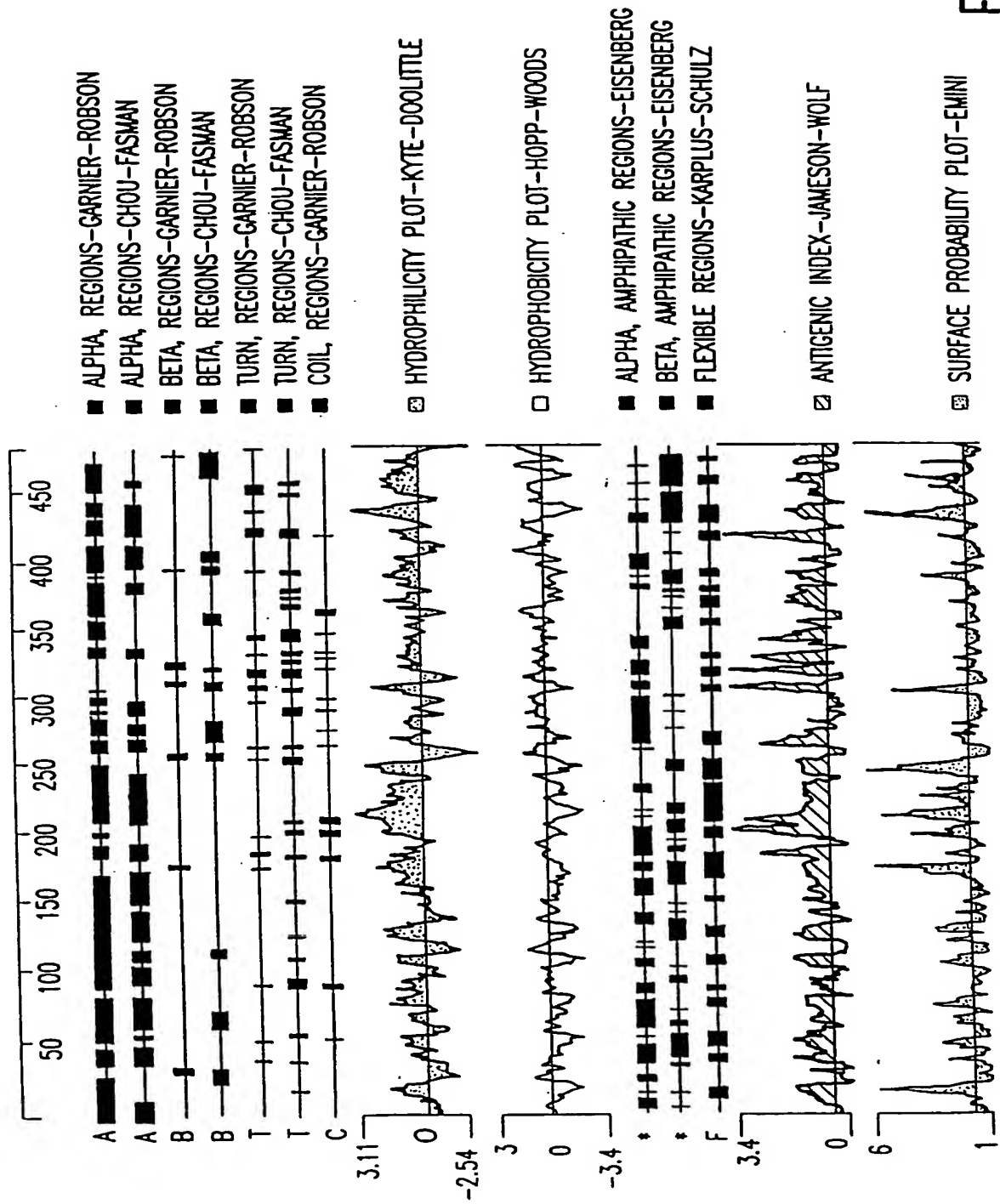


FIG.3

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      10              30              50
GCGAGCTTGCAGCCTCACCGACGAGTCTCAACTAAAAGGGACTCCCGGAGCTAGGGGTGG

      70              90              110
GGA CT CGG CCTCACACAGTGATTGCCGGCTATTGGACTTTTGTCCAGTGACAGCTGAGAC

      130             150             170
AAC AAGGACCACGGGAGGAGGTGTAGGAGAGAAGCGCCGCGAACAGGCATCGCCCAGCAC

      190             210             230
CAAGTCCGCTTCCAGGCTTTCGGTTTCTTGCCTCCATCTTGGGTGCGCCTTCCCGGCGT

      250             270             290
CTAGGGGAGCGAAGGCTGAGGTGGCAGCGGCAGGAGAGTCCGGCCGCGACAGGACGAGTG

      310             330             350
CTGATGGCAGAGATTGGTGAGGATTTGGATAAATCTGATGTGTCCTCATT AATTTTCCTC
  M A E I G E D L D K S D V S S L I F L

      370             390             410
ATGAAGGATTACATGGGCCGAGGCAAGATAAGCAAGGAGAAGAGTTTCTTGGACCTTGTG
  M K D Y M G R G K I S K E K S F L D L V

      430             450             470
GTTGAGTTGGAGAAACTAAATCTGGTTGCCCCAGATCAACTGGATTTATTAGAAAAATGC
  V E L E K L N L V A P D Q L D L L E K C

      490             510             530

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FIG.4A

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CTAAAGAACATCCACAGAATAGACCTGAAGACAAAAATCCAGAAGTACAAGCAGTCTGTT
L K N I H R I D L K T K I Q K Y K Q S V
550 570 590
CAAGGAGCAGGGACAAGTTACAGGAATGTTCTCCAAGCAGCAATCCAAAAGAGTCTCAAG
Q G A G T S Y R N V L Q A A I Q K S L K
610 630 650
GATCCTTCAAATAACTTCAGGGAAGAACCAAGTGAAGAAATCCATTGAGGAATCAGAAGCT
D P S N N F R E E P V K K S I Q E S E A
670 690 710
TTTTTGCCTCAGAGCATACCTGAAGAGAGATACAAGATGAAGAGCAAGCCCCTAGGAATC
F L P Q S I P E E R Y K M K S K P L G I
730 750 770
TGCCTGATAATCGATTGCATTGGCAATGAGACAGAGCTTCTTCGAGACACCTTCACTTCC
C L I I D C I G N E T E L L R D T F T S
790 810 830
CTGGGCTATGAAGTCCAGAAATTCTTGCATCTCAGTATGCATGGTATATCCCAGATTCTT
L G Y E V Q K F L H L S M H G I S Q I L
850 870 890
GGCCAATTTGCCTGTATGCCCCGAGCACCGAGACTACGACAGCTTTGTGTGTGTCTGGTG
G Q F A C M P E H R D Y D S F V C V L V
910 930 950
AGCCGAGGAGGCTCCCAGAGTGTGTATGGTGTGGATCAGACTCACTCAGGGCTCCCCCTG
S R G G S Q S V Y G V D Q T H S G L P L
970 990 1010
CATCACATCAGGAGGATGTTTCATGGGAGATTTCATGCCCTTATCTAGCAGGGAAGCCAAAG
H H I R R M F M G D S C P Y L A G K P K
1030 1050 1070
ATGTTTTTTTATTCAGAACTATGTGGTGTGACAGCGCCAGCTGGAGGACAGCAGCCTCTTG
M F F I Q N Y V V S D G Q L E D S S L L
1090 1110 1130
GAGGTGGATGGGCCAGCGATGAAGAATGTGGAATTCAAGGCTCAGAAGCGAGGGCTGTGC
E V D G P A M K N V E F K A Q K R G L C
1150 1170 1190
ACAGTTCACCGAGAAGCTGACTTCTTCTGGAGCCTGTGTACTGCGGACATGTCCCTGCTG
T V H R E A D F F W S L C T A D M S L L
1210 1230 1250
GAGCAGTCTCACAGCTCACCGTCCCTGTACCTGCAGTGCCTCTCCAGAAACTGAGACAA
E Q S H S S P S L Y L Q C L S Q K L R Q
1270 1290 1310
GAAAGGGGGACAATTCCCGGAAGTGGAAATTACAGAGTCAAAGGACATGCATTTTCAAGC
E R G T I P G S G I T E S K D M H E S S
1330 1350 1370
CTCGGATGCATCTTACTAGATGTCCTATAGGATGGTCATATCAGCTTTATAGGAGAGTAG
L G C I L L D V L *
1390 1410 1430
CTGTGTCCCTGAATTCTCCCTGACACTGCATGCTTATATTTCTCAAGTTTTGACAAT
1450 1470 1490
TTGATAGGTGAAAAGTGGTATCTGACTGTTTCAGATCTGGAAGGCTTTGTTATATAAACAT
1510 1530 1550
TTTTTTAATGTTTATTGGCAAGAATACTTTTCTAAGAGAAACATCAGTGAGCTGGTTTCC
1570 1590 1610
ATTTAAGCTGAATGAAGCCACAATGTACCTCAAGTATAAGATTAAGTGGCCTTTTTCAGT
1630 1650 1670
TGCACTCTAATTACAATTTAGAATGATGTTTCTGAGCCACCTGTCAAATGCATTCTGGGC

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FIG.4B

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1690 1710 1730
TGTACCTCTGCGTACCCAGGAATAAATCTCATGGCCTTCTTTACCTGGCCTCCTTAGTG
1750 1770 1790
GTGGCCAGCAGGAAGCGGGGTTAGAGCAGGAGCCACTCAGCCTTCCAAGATAGATACT
1810 1830 1850
CCATGGGCCGGTGGTATTACTGGCCTTTTGAGCCCATCCCCATTTGCATAGATGATCCAC
1870 1890 1910
GTGGGTATCATCTGGCTGGTATGTTCCAGAGTGAACTCAGCAGCCCCTTGAGGGAGG
1930 1950 1970
GGATGGTGGCCATCAGGCCAGAGTATTGCAAGTTAGTTTGGATCATTTGCTAAGCAGCTT
1990 2010 2030
GTGGTGCCCTTCAGAAAGGAACAGTTTCAAAGAACTTTCACATCTGTTGGCTCATTTGCCC
2050 2070 2090
CTAATGACAGTCTTCTCTTTGATATTGCATGGCATTAAATTTGCCTTTCTTGTTTTCT
2110 2130 2150
CCAGAAAACGCCCACTCCTGGATCTTCACATTGAACTCAATGGCTACATGTATGATTGGA
2170 2190 2210
ACAGCAGAGTTTCTGCCAAGGAGAAATATTATGTCTGGCTGCAGCACACTCTGAGAAAGA
2230 2250 2270
AACTTATCTCTCCTACACATAAGAAACCAAAAGGCTGGGCGTAGTGGCTCGCACCTGTGA
2290 2310 2330
TCCCAGCACTTTGGGAGGCCGAGGAGGGCGGATCACTTCAGGTCGGGAGTTTCGAGACCAG
2350 2370 2390
CCTGGCCAGCATGTGAACGCTGTCCCTAGTAGAAGTGCAAAAATTGGCTGGTGTGGGTGT
2410 2430 2450
GGGTACCCTGTATTCCCAGTTGCTTGGGGGGCTGAGGTGGGAGGATCTTTTGACCCCAGG
2470 2490 2510
AGTTCAGGGTCATAGCATGCTGTGATTGTGCCTACGAATAGCCACTGCATACCAACCTGG
2530 2550 2570
GCAATATAGCAAGATCCCATCTCTTTAAAAAAAAAAAAAAAAAAGGACAGGA ACTATCTTAA
2590
AAAAAAAAAAAAAAAAA

FIG.4C

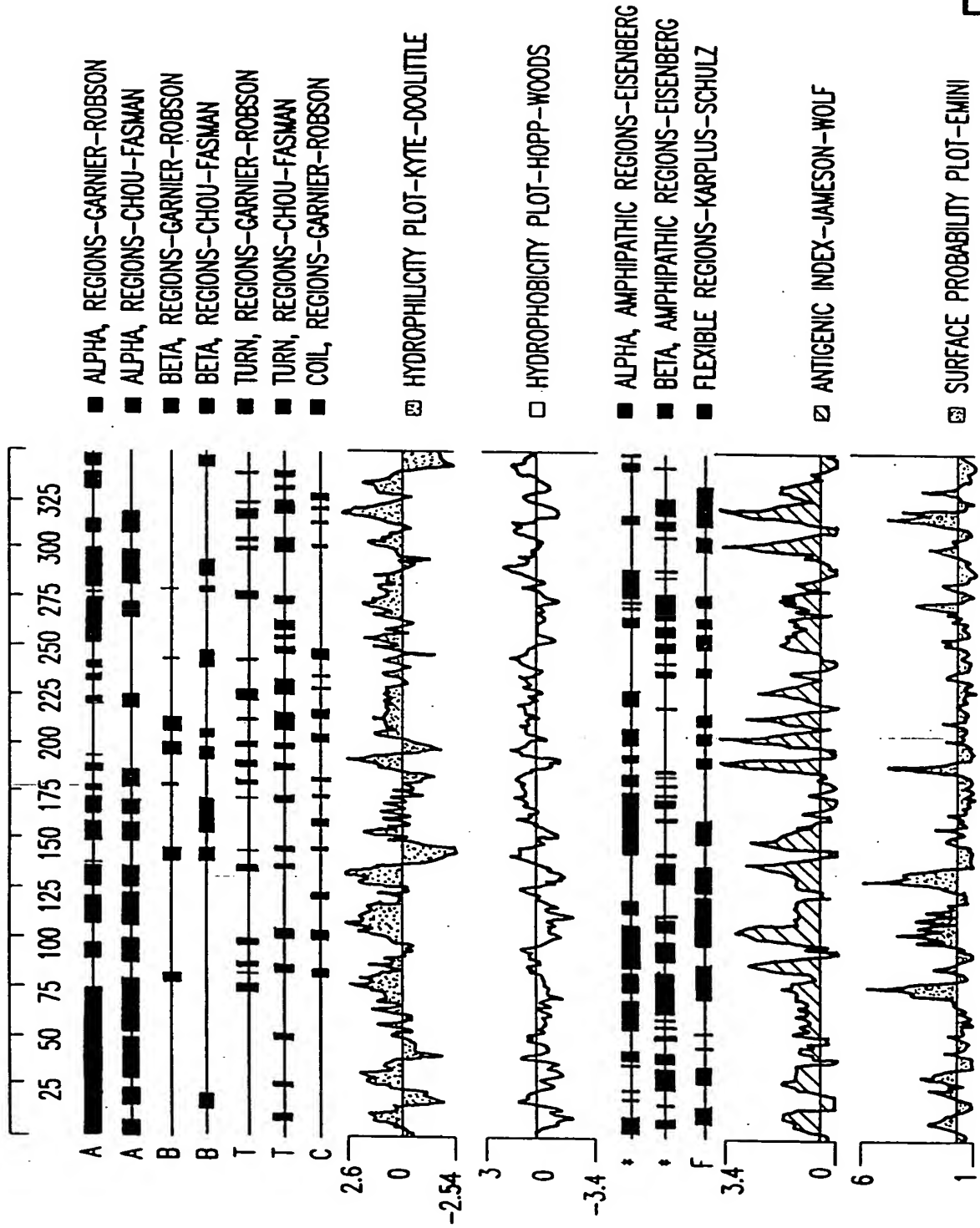


FIG.5

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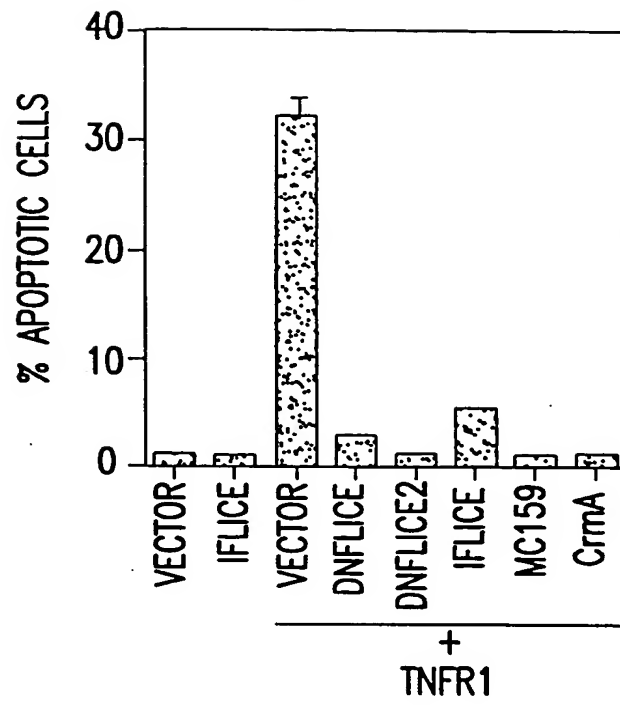


FIG.6A

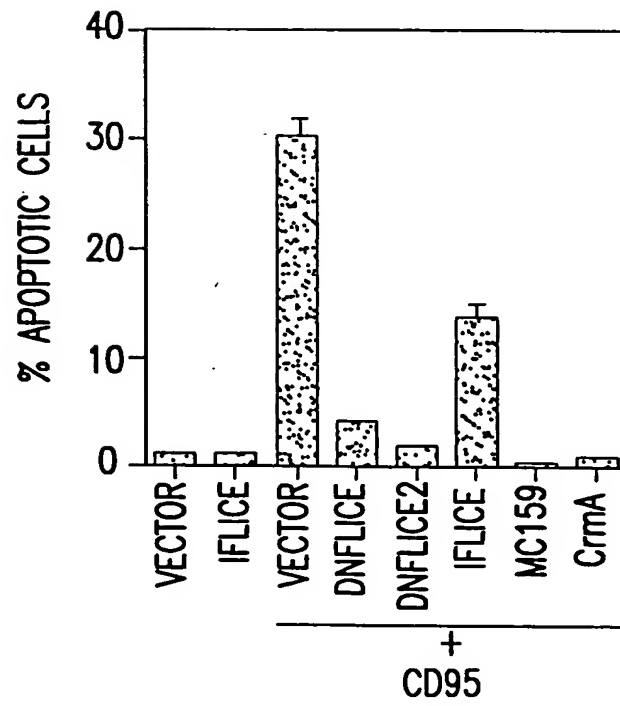


FIG.6B